

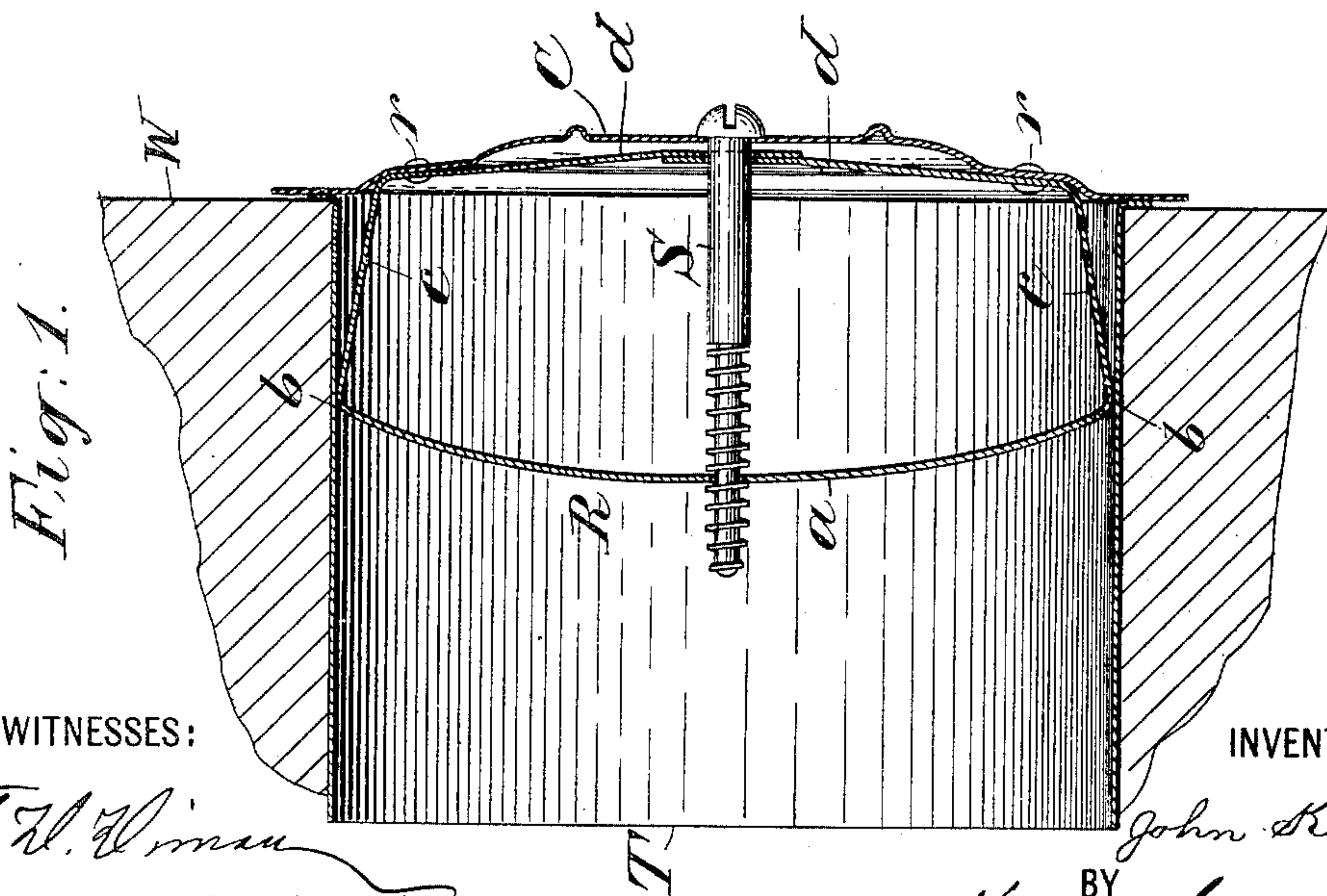
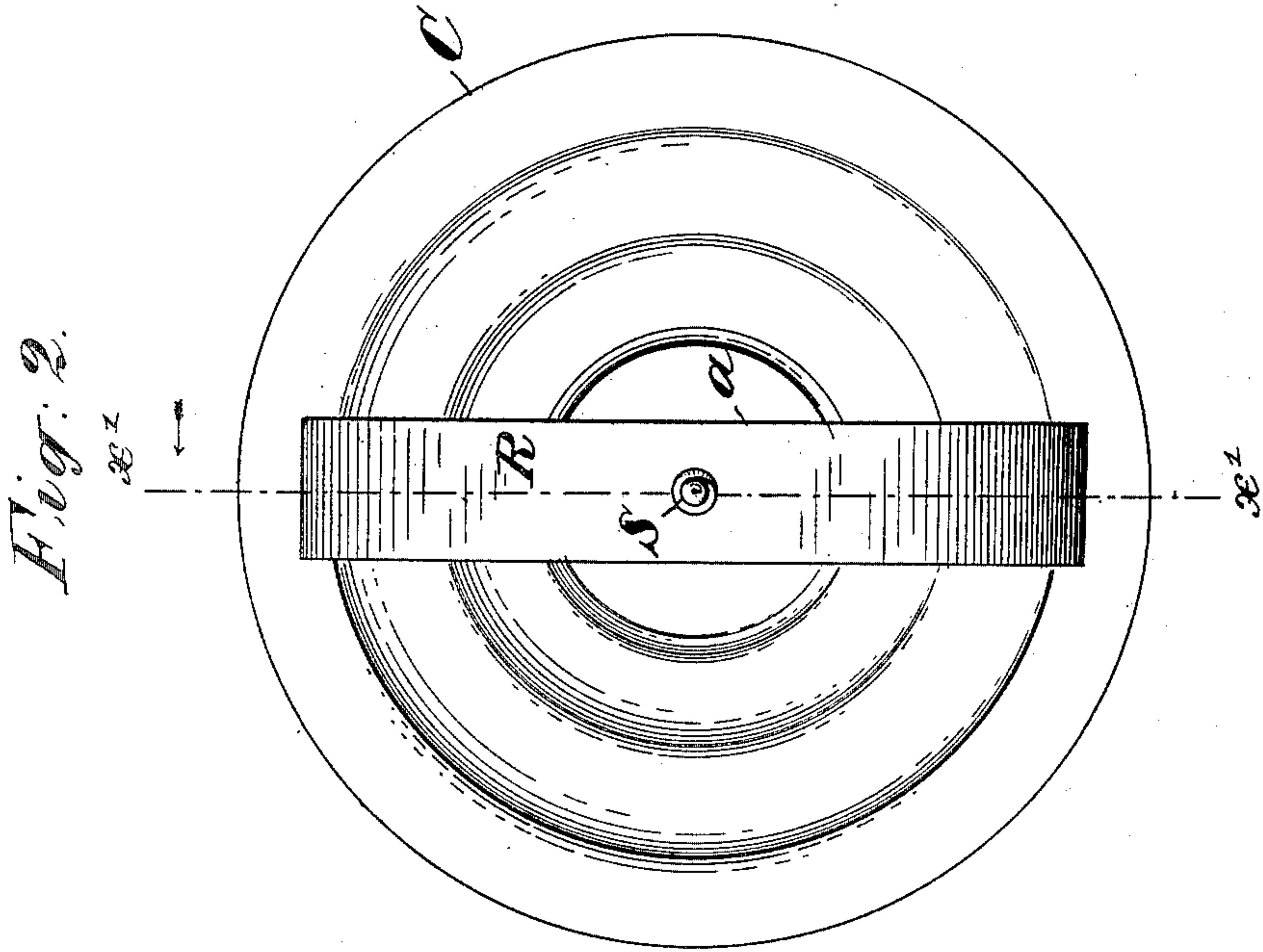
No. 667,883.

Patented Feb. 12, 1901.

J. KIRKWOOD.  
FLUE STOPPER.

(Application filed Sept. 12, 1900.)

(No Model.)



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JOHN KIRKWOOD, OF LENOX, MASSACHUSETTS.

## FLUE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 667,883, dated February 12, 1901.

Application filed September 12, 1900. Serial No. 29,777. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN KIRKWOOD, a citizen of the United States, residing at Lenox, in the county of Berkshire and State of Massachusetts, have invented certain new and useful Improvements in Flue-Stoppers, of which the following is a specification.

This invention relates to the class of flue stoppers or closers wherein the cover is provided with a spring retainer which is expanded or laterally distended within the pipe hole or flue by a screw to hold the cover in place.

The object of the invention is to simplify and cheapen the construction and to provide an improved form of distending spring retainer.

In the accompanying drawings, which illustrate an embodiment of the invention, Figure 1 is an axial section of the stopper shown as placed in a flue-thimble, the plane of the section being indicated by line  $x'$  in Fig. 2; and Fig. 2 is a view of the inside face of the stopper.

Let  $W$  represent a chimney wall or breast, and  $T$  a sheet-metal thimble set therein to form a pipe-hole leading into the chimney-flue. These features may be of the usual kind and are well known.

The flue-stopper comprises the cover plate or cap  $C$  and a device mounted thereon for retaining the said plate or cap in place when in position to close or stop the pipe-hole. This retaining device consists of two parts—namely, a spring-retainer  $R$  and a distending-screw  $S$ . The retainer  $R$  consists of a single strip of sheet metal, preferably steel, bent to the peculiar form shown and secured to the plate or cap  $C$  at two points by rivets  $rr$ . The elements of the retainer are a bridging arch  $a$ , which is relatively flat, two angular abutments  $b b$  at the respective extremities of said arch, two inwardly-inclined straight supports  $c c$ , extending radially of the arch from the abutments to the inner face of the cap, and two securing end pieces  $d d$ , which are nearly at right angles to the respective supports  $c$  and overlap each other at their free ends.

The screw  $S$  is a simple wood-screw, which occupies a central aperture in the cap  $C$  and extends through coincident holes in the over-

lapped end pieces  $d d$ , the threaded portion of said screw extending through a hole in the arch  $a$ . The material of the retainer being thin, no thread is required to be cut in the hole in the arch  $a$  to engage the thread of a wood-screw.

To apply and secure the stopper in place over the pipe-hole, the device is placed in position, as indicated in Fig. 1, and held there by the hand while the screw  $S$  is given a turn or two to the right with a screw-driver. The effect of this operation is to flatten the arch  $a$  slightly, and thus drive the abutments  $b$  outward against the walls of the pipe-hole.

The abutments  $b$  should find a bearing well inside the pipe-hole—say not less than about an inch from the face of the wall to which the cap is applied—and the retainer should not extend through the wall into the flue.

It will be noted that by causing the free ends of the strip forming the retainer to overlap and providing coincident holes therein at said overlap for the screw to extend through it is only necessary to employ one rivet in each end piece, as shown.

My flue-stopper is simple, inexpensive, and effective, the abutments  $b$  serving to provide a rigid and secure hold on the wall of the pipe-hole or flue. The stopper may of course be used on the end of a stove-pipe as well as on a wall-flue.

Having thus described my invention, I claim—

In a flue-stopper, the combination with the cover  $C$ , of the retainer  $R$ , made from spring sheet metal in a single piece and comprising the relatively flat arch  $a$ , the abutments  $b, b$ , at the respective ends of said arch, the straight supports  $c, c$ , radial to the arch and extending from the respective abutments to the cover  $C$ , and the overlapping end pieces  $d, d$ , each secured by a rivet to the cover  $C$ , and the screw  $S$ , which extends through coincident holes in said cover and end pieces and screws through the arch  $a$ , substantially as set forth.

In witness whereof I have hereunto signed my name, this 31st day of August, 1900, in the presence of two subscribing witnesses.

JOHN KIRKWOOD.

Witnesses:

JAMES A. CAMPBELL,  
STEPHEN C. BURGHARDT.